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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/700,311	11/13/2000	Martin Holzapfel	P00,1796	3652

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EXAMINER
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ARMSTRONG, ANGELA A

ART UNIT	PAPER NUMBER
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2654

DATE MAILED: 07/20/2004

8

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/700,311

Applicant(s)

HOLZAPFEL, MARTIN

Examiner

Angela A. Armstrong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 November 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 November 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Specification*

1. A substitute specification including the claims is required pursuant to 37 CFR 1.125(a) because the amendment makes numerous changes or corrections to the specification which render it difficult to arrange the papers for printing or copying.

A substitute specification filed under 37 CFR 1.125(a) must only contain subject matter from the original specification and any previously entered amendment under 37 CFR 1.121. If the substitute specification contains additional subject matter not of record, the substitute specification must be filed under 37 CFR 1.125(b) and (c).

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miner et al (US Patent No. 6,748,355) in view of Gulli (US Patent No. 5,826,232).

Miner discloses a method of sound synthesis for modeling and synthesizing dynamic parameterized sounds.

3. Regarding claims 1, 6, and 10, Miner teaches digitizing a sound sample (col. 4, lines 9-10); wavelet transforming the sound sample (col. 4, lines 41-57) and defining specific sound

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characteristics based on the different transformation stages of the wavelet transform (col. 4, lines 9-57; col. 5, lines 22-51; col. 6, lines 49-51; col. 7, lines 44-65). Miner teaches the system results in perceptually convincing sound synthesis. Miner does not teach the sound to be synthesized is speech or a spoken expression.

Gulli teaches a method for voice analysis and synthesis using wavelets, and teaches the method makes it possible to synthesize speech as simply as possible (col. 2, lines 62-65).

It would have been obvious to one of ordinary skill at the time of the invention to implement the sound synthesizing system of Miner to generate synthetic speech using wavelets, as suggested by Gulli, for the purpose of providing perceptually convincing synthetic speech.

Regarding claim 2, Miner does not teach a windowed transformation before the wavelet transformation. However, implementing a windowing transformation was well known in the art.

Gulli teaches the sample signal is cut up into frames ("windowed") of 128 points or frame durations of 12.8 ms.

It would have been obvious to one of ordinary skill at the time of the invention to modify the system of Miner to provide for windowing of the digitized signal, as was well known in the art, for the purpose of separating the signal into a series of frames for easier processing.

Regarding claim 3, Miner and Gulli do not teach the windowing transformation is implemented with a fast Fourier transform. However, implementing a windowing transformation via a fast Fourier transform was well known in the art of signal processing.

It would have been obvious to one of ordinary skill at the time of the invention to modify the sound synthesis system of Miner to implement a fast Fourier transform to transform the

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signal to a frequency domain, as was well known in the art, for the purpose of providing the signal in the spectral domain which would facilitate speech analysis and processing.

Regarding claim 4, Miner teaches determining a low-pass and high-pass part of the signal to be transformed in each stage (Figure 2).

Regarding claim 5, Miner and Gulli do not teach the high pass part is subdivided into a real part and an imaginary part. However, it would have been obvious to one of ordinary skill at the time of the invention to subdivide the high pass section into a real and imaginary portion, so as to provide processing on the real part of the signal, since the imaginary part can be discarded in speech processing, and thereby reduce processing time of the system.

Regarding claim 7, Miner teaches the sound characteristics are an attribute of basic frequency and spectral envelope (col. 4, lines 9-57; col. 5, lines 22-51; col. 6, lines 49-51; col. 7, lines 44-65).

Regarding claims 8 and 9, Miner teaches providing concatenation of speech sounds (col. 4, lines 9-57; col. 5, lines 22-51; col. 6, lines 49-51; col. 7, lines 44-65; col. 8, lines 20-67).

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*Conclusion*

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angela A. Armstrong whose telephone number is 703-308-6258. The examiner can normally be reached on Monday-Thursday 7:30-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (703) 305-9645. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Angela A. Armstrong  
Examiner  
Art Unit 2654

AAA  
July 9, 2004

